

REMARKS**Specification**

In a careful review of the above mentioned Patent Application, the Applicants have discovered a number of errors in the specification and drawings, which they respectfully request to correct before the Application goes to Examination. Most of the errors are simple typographic or spelling errors, whether in the text of the specification or in the drawings, and the intended meanings are clear and evident. In several of the cases, however, the errors are more involved, and necessitate the Examiner's due consideration. These cases, to the best of the applicants' understanding, are noted hereinbelow.

The amendment on page 18, third paragraph, is requested since a number of lines of the text were inadvertently omitted missed from the paragraph as printed in the PCT Application. The paragraph is a paraphrasing of claim 108, and the Applicants request amendment of the paragraph, to conform with the correct wording, as in claim 108. The applicants respectfully submit that no new matter is added by this amendment.

The amendment on page 20, involves the addition of a brief description of Fig. 20B, which was inadvertently omitted from this section when Fig. 20B was added during the preparation of the specification. A full description of Fig. 20B is given in the specification in the last paragraph on page 30, leading onto page 31. The applicants respectfully submit that no new matter is added by this amendment.

The corrections on page 26, lines 3, 5-6 and 8-9 are requested to bring the nomenclature used in the text into line with that used in Fig. 8, to which that text refers. In Fig. 8, unlike the embodiment shown in Fig. 7, the discrimination method used to distinguish between channels is electronic. Because of the resulting lack of dependence on mechanical shutter location, the embodiment shown in Fig. 8 can be used to discriminate between any two pairs of the three pairs of absorption channels, including the

zero calibration channel. Because of the shutter location, the embodiment in Fig. 7, on the other hand, can only discriminate between the sample and gas reference channels. Though the terms "sample", "gas reference" and "zero calibration", are not previously used identically as such, in the specification, this nomenclature is similar to that used on the last line of page 26, and in Fig. 11 to define the three relevant channels. The applicants respectfully submit that no new matter is added by this amendment.

The amendment on page 43, line 5 is requested in order to correct possible ambiguity arising from phraseology, which may make the meaning of the complete paragraph vague or unclear. The Applicants request to amend the sentence "Each of these samples though, coming from negative patients, should" to read "Each of these samples though, coming from a negative patient, should" The amendment to this one sentence clarifies the intended meaning of the whole paragraph with a minimum of change to the specification.

The possibly ambiguous paragraph is that starting on page 42 "A further self-calibration facility is available by observing the correlation of the noise level in the isotopic ratio measurements obtained from negative subjects, with the CO₂ concentration measurements obtained from the same subjects". This paragraph describes a method whereby multiple breaths of a negative patient are compared for correlation between measured concentration and isotopic ratio. Any correlation detected points to a lack of correct calibration of the instrument. This procedure may be performed on many negative patients, as stated in the specification - "In effect, the system can continually observe measurements obtained from negative patients to execute this procedure,"

However, from the way in which the paragraph is currently written, it may be understood that a correlation between concenand isotopic ratios is sought between the results on breaths of many different negative patients, instead of the intended meaning of seeking, in many negative patients, a correlation between the concentrations and isotopic ratios of the breaths of the same patient. The intended meaning is thus analogous to the method described in the penultimate paragraph of page 42, where the breath of a single subject is used. The proposed amendment ensures the correct and only rational

understanding of this method. The applicants respectfully submit that no new matter is added by this amendment.

Furthermore, in the same paragraph, though unrelated to the correction requested above, the applicants request that the term "noise level in the isotopic ratio measurements" be amended to "spread in the isotopic ratio measurements". The implied use of the term "noise" in this sentence was meant to describe the spread in the measurements, not specifically from random fluctuations usually known as "noise", but rather from systematic deviations arising from a lack of calibration of the instrument. The proposed amendment will avoid confusion with the use, in the same paragraph, of the term "within the noise limits of the measurements" used on page 43, line 5, where the word noise has its usual meaning. The correct understanding of the measurement is apparent from page 43, lines 6-9, or from page 17, lines 19-22, where the word spread is specifically used. The applicants respectfully submit that no new matter is added by this amendment.

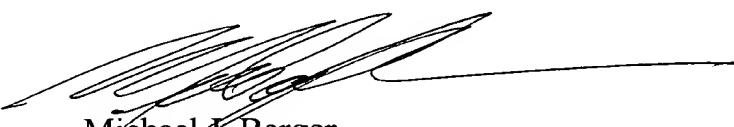
The Applicants also request to amend the phrase "a single negative sample" on page 43, line 3, to "a single sample". The sentence in which this phrase appears is a reference to a first method described in the penultimate paragraph on page 42. In that first method, the sample may indeed be a negative sample, but is not limited to a negative sample. The term negative was inadvertently used in the paraphrased mention on page 43, because of its location in the paragraph describing a second method involving negative samples. Removal of the word "negative" eliminates any lack of conformity between the original description of the first method on page 42, and the second mention of the first method on page 43. Removal of the word "negative" also eliminates any confusion between the two methods disclosed. The applicants respectfully submit that no new matter is added by this amendment.

The amendment requested on page 43, line 6, involving the addition of "patient's" to describe the natural ratio is needed because the term "natural ratio" could, contrary to the inventors' intention, be understood to mean the isotopic ratios of elements, as they

occur in nature. In the embodiment described, the term is meant to describe the "normal" ratio present in the breath of the negative patient currently being tested. The Applicants therefore request the addition of the qualifying possessive "patient's", to make this usage of the term "natural" clear. The applicants respectfully submit that no new matter is added by this amendment.

The amendments requested to Fig. 25A and Fig. 26 arise because of a decision made, during the period in which the specification was being written, to change the best mode concentration example described in the preferred embodiment illustrated in Figs. 25A, 25B and 26, from 3.5% to 3%. Inadvertently, the change was not followed through everywhere that that embodiment was mentioned, nor in all the relevant drawings. Thus, in Fig. 25B, and its accompanying description on page 35 of the specification, the correct preferred value of 3% is shown. In Fig. 25A, the error was noticed and a correction had been made by hand before filing, but only to the operational point, and not to the axes of the graph. In Fig. 26, on the other hand, the change was not corrected at all. The requested amendments to Figs. 25A and 26, and to the text on page 35, line 3, will bring every mention of the preferred concentration example to the same central value of 3%. The applicants respectfully submit that no new matter is added by these amendments.

Respectfully submitted,

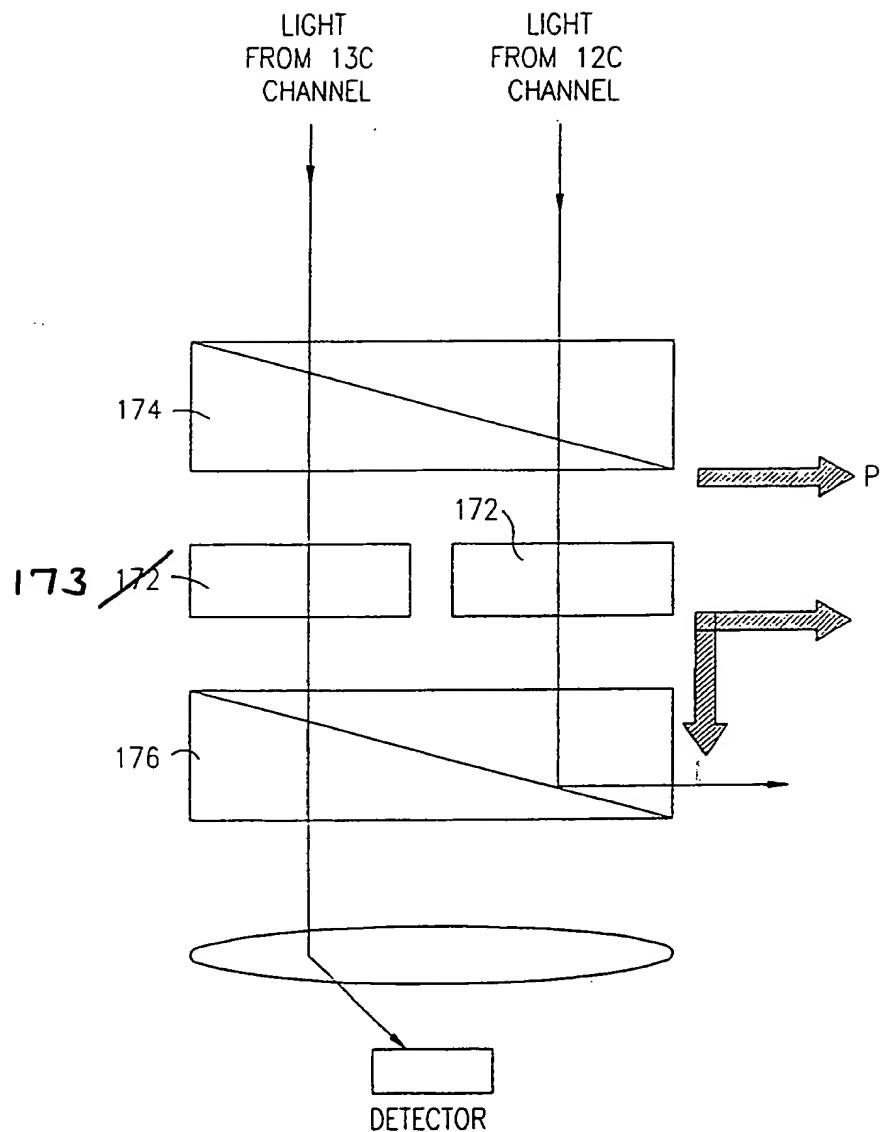


Michael J. Berger
Reg. No. 25,829

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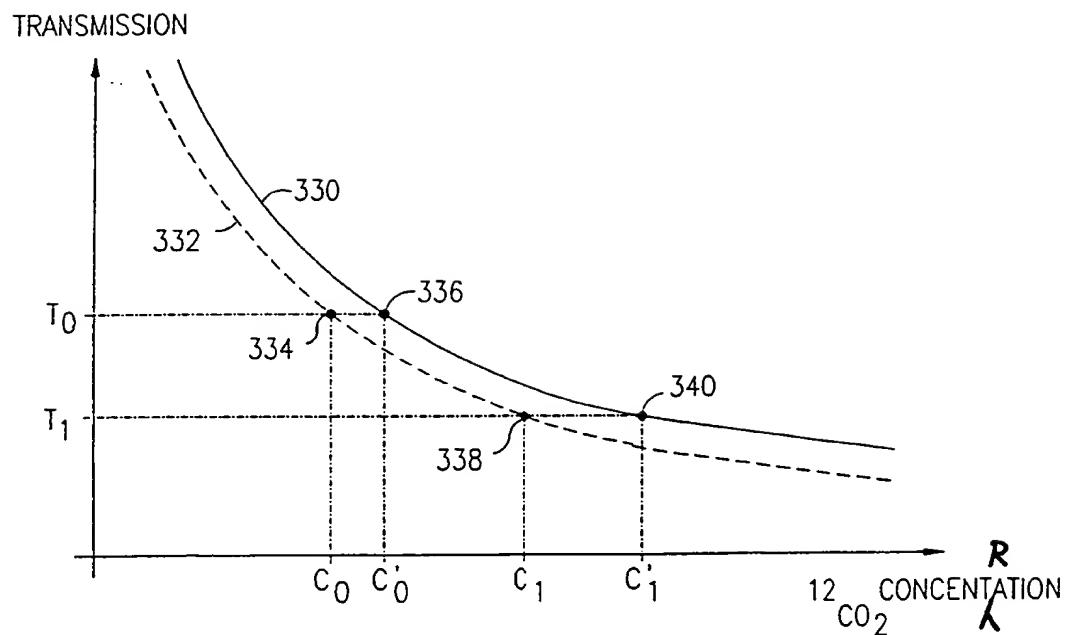
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FIG. 17

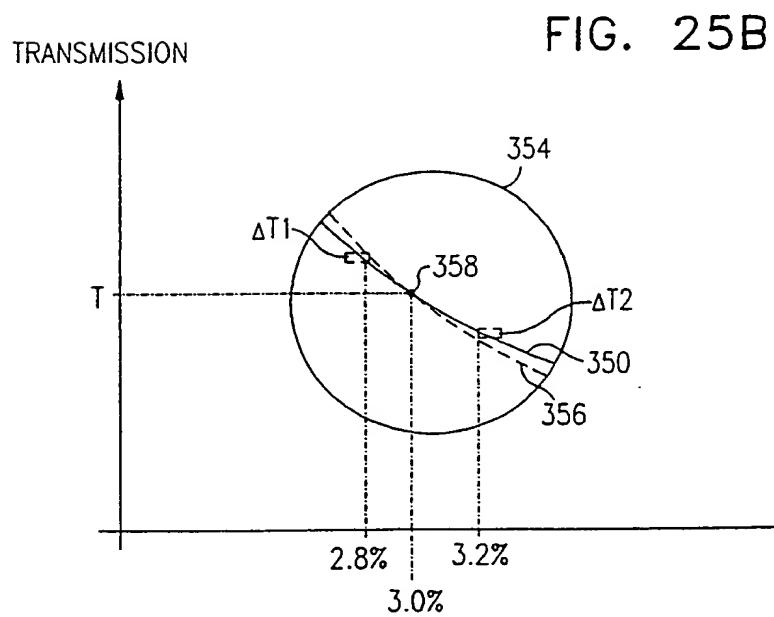
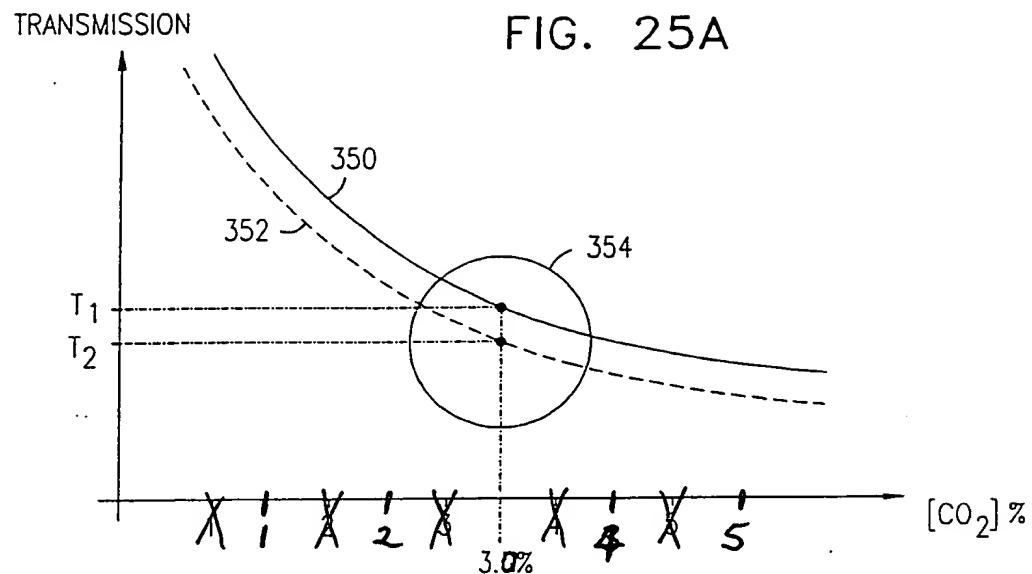


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FIG. 24



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TRANSMISSION

FIG. 26

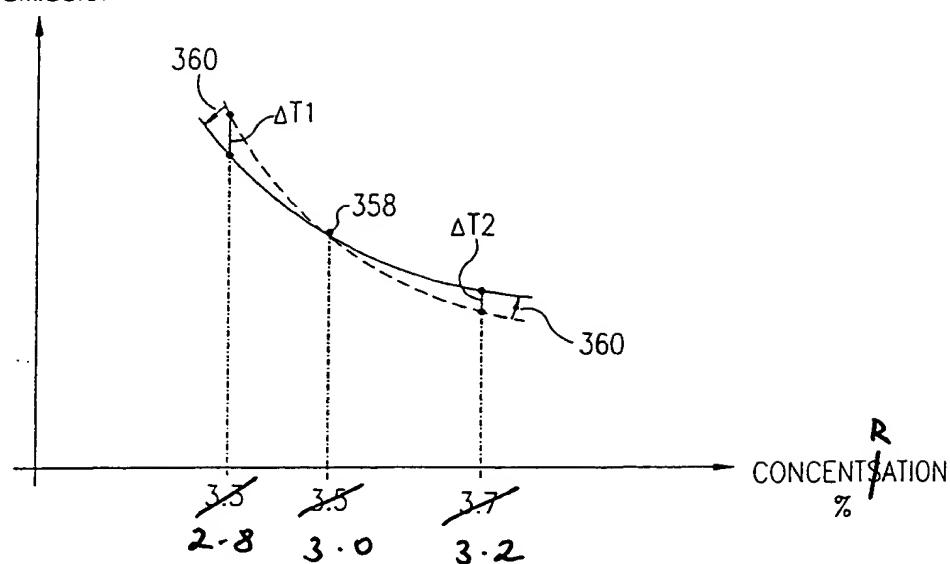
% CO₂

FIG. 27

5

4

3

2

1

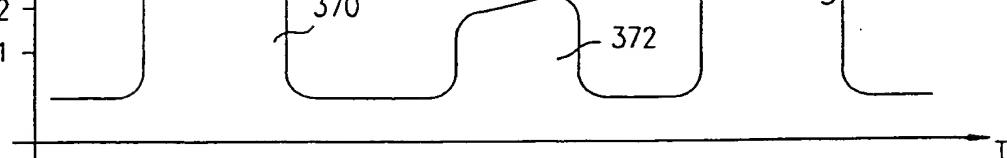
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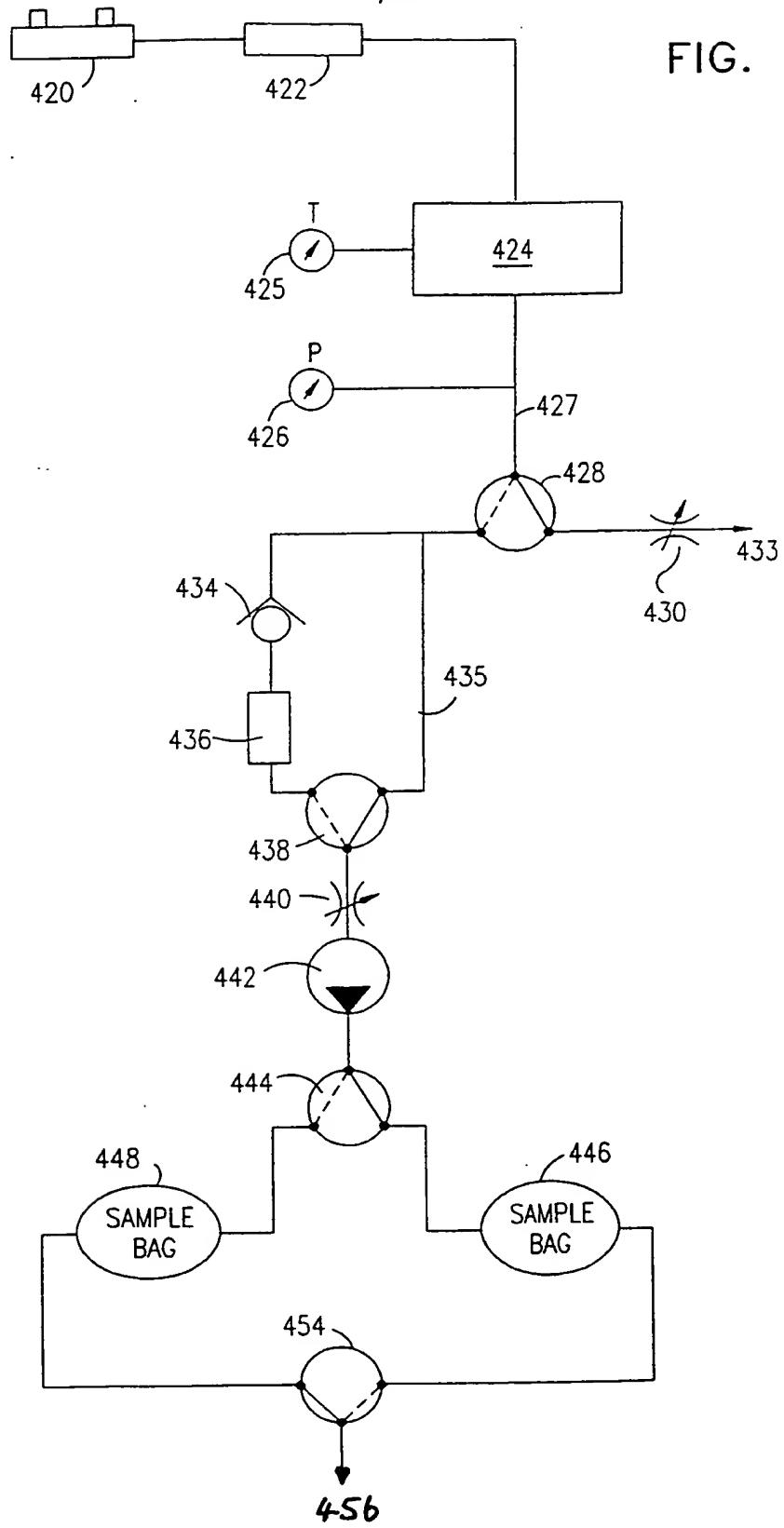


FIG. 30

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